

The photos also highlighted sand dunes that had been altered by construction and showed how they contributed to the beach erosion. Such encroachments of the dunes now have been restricted by local laws.

The restoration project is one of many examples of how aerospace technology can help solve community problems.

Exploring with gravity

Among oil and mineral prospecting tools are instruments that measure anomalies in the gravitational and related fields. The instruments work because the density of hydrocarbon-bearing rock or ore deposits is different from that of normal soil.

Modern gravity meters actually can achieve an accuracy of up to one part in a 100-million, but only on the earth's surface using a complicated system of

springs and levers that require extreme dimensional stability and tedious data interpretation.

Sponsored by the Technology Utilization Office, the Langley Research Center last year undertook a six-month feasibility study to adapt a sensitive resonance fluorescence spectrometer as a gravitometer. The spectrometer was improved initially by Langley to investigate small changes in the atomic composition of spacecraft metals that might cause structural fatigue. Results of the study indicated that such a device could detect gravitational anomalies from the air with sufficient accuracy to reveal mineral and oil resources.

The starting point of such an instrument is high-purity rhodium, free from magnetic and other impurities. Thus, research is proceeding this year to grow or otherwise purify source-absorber rhodium crystals of the required perfection.

